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**Apparatus for Seebeck Coefficient Measurements of Lithium-7 and Lithium-6** MARYANN TUNG, VIJAY SURLA, WENYU XU, DAVID RUZIC, University of Illinois at Urbana Champaign, DENNIS MANSFIELD, Princeton Plasma Physics Lab — Lithium, owing to its many advantages, is of immense interest to the fusion community for its use as plasma facing component (PFC) material. Recently, in the center for plasma material interactions, it was shown that the flow of liquid lithium in the presence of magnetic fields is dominated by thermoelectric Magnetohydrodynamic (TEMHD) flow. To accurately describe these observed results, the knowledge of the thermoelectric properties of lithium is essential. To this end, an apparatus for determining the Seebeck Coefficient of lithium was developed. Using this apparatus, the Seebeck Coefficient of lithium as a function of temperature is obtained. The Seebeck Coefficient of Lithium-7, with respect to stainless steel, is found to gradually increase from  $16 \mu\text{V/K}$  to  $35 \mu\text{V/K}$ , as the temperature is raised from 300 K to 500 K, which is in good agreement with published values [1]. Furthermore, the Seebeck coefficient of Li-6, for the first time, was measured and the results are presented.

[1] Bidwell, C.C, “Electrical Resistance and Thermoelectric power of the Alkali Metals,” Phys. Rev. 28,357 (1924).

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